

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of reproducing a gray scale image in colors, comprising the step of assigning a color value (x, y) and a brightness (Y) to each shade of gray to provide a three-dimensional space having increasing shades of gray, wherein the assignment between shades of gray and brightness is monotonic, wherein the assigned color values are selected from the range (U) of a predetermined reference color (x_R, y_R) , and wherein the assignment of color values enables the human eye to differentiate between successive shades of gray.

2. (Original) A method as claimed in claim 1, characterized in that the reference color (x_R, y_R) is white.

3. (Previously Amended) A method as claimed in claim 1, characterized in that different color values are assigned to two successive shades of gray.

4. (Previously Amended) A method as claimed in claim 3, characterized in that the assignment between shades of gray and color values is bijective.

5. (Previously Amended) A method as claimed in claim 4, characterized in that a recurrent series of $m \leq n$ different color values $((x_1, y_1), \dots, (x_m, y_m))$ is assigned to the n shades of gray in an ascending order.

6. (Previously Amended) A method as claimed in claim 5, characterized in that the reproduction of the gray scale image in colors takes place on a color monitor (6), the assignment between shades of gray on the one side and color values

(x, y) and brightness (Y) on the other side being adapted to the dynamic range of the monitor.

7. (Original) A method as claimed in claim 6, characterized in that the rule of assignment between the shades of gray and the control of the primary colors of the color monitor (6) is stored in a look-up table (4, 5).

8. (Original) A method as claimed in claim 7, characterized in that the look-up table (4, 5) also takes into account the effect of the ambient brightness.

9. (Previously Amended) A device for reproducing a gray scale image in colors, which device includes a transformation unit (3) which assigns a color value (x, y) and a brightness (Y) of the display to each shade of gray (2), characterized in that the transformation unit is arranged in such a manner that it is capable of carrying out a method as claimed in claim 8.

10. (Original) A device as claimed in claim 9, characterized in that it includes a color monitor (6) for reproducing the gray scale image in colors, and that the transformation unit assigns the driving of the primary colors (R, G, B) of the color monitor to the shades of gray.

11. (New) A method as claimed in claim 1, characterized in that the three-dimensional space is cylindrical.

12. (New) A method as claimed in claim 1, characterized in that the increasing shades of gray increase along a spiral-like line.